

# Oroville Facilities Relicensing FERC Project No. 2100

Presentation at the  
California Energy Commission's  
Hydropower System - Energy and  
Environment Workshop

CA Department of Water Resources

June 5, 2003



# DWR

## Mission Statement

- "To manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments."



# DWR – A Unique FERC Licensee

- State resource agency with a licensed facility, but broader state mandates
  - State water supply and planning responsibilities
  - Significant hydroelectric project responsibilities
  - Extensive energy supply responsibilities



# The Oroville Facilities

## A Significant Role in CA Water Supply

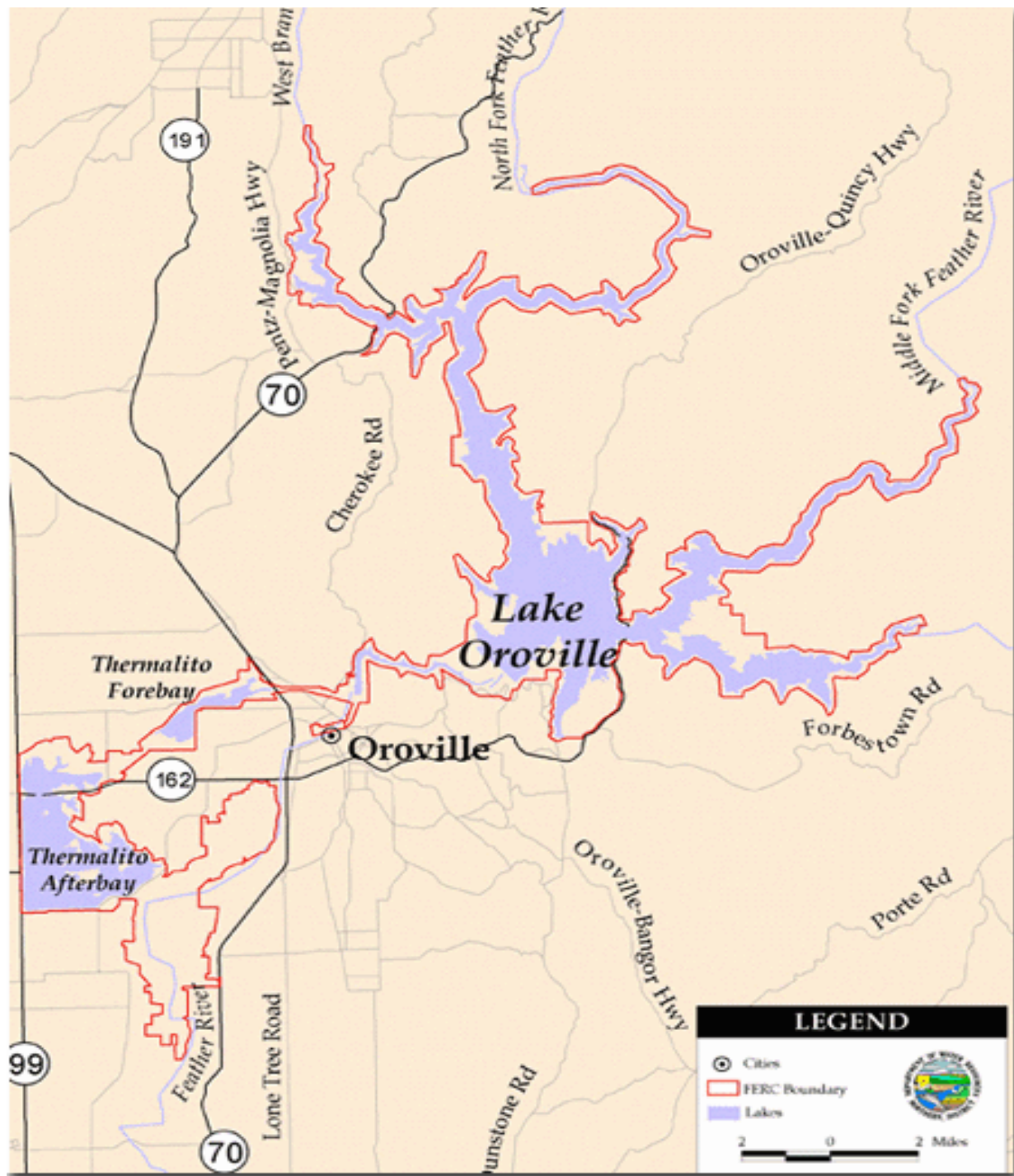
- State Water Project provides water for 2/3 of the State's population
- Oroville Facilities are the main water storage facility in the State Water Project (SWP)
- Normal operation does not include losing water to generate energy

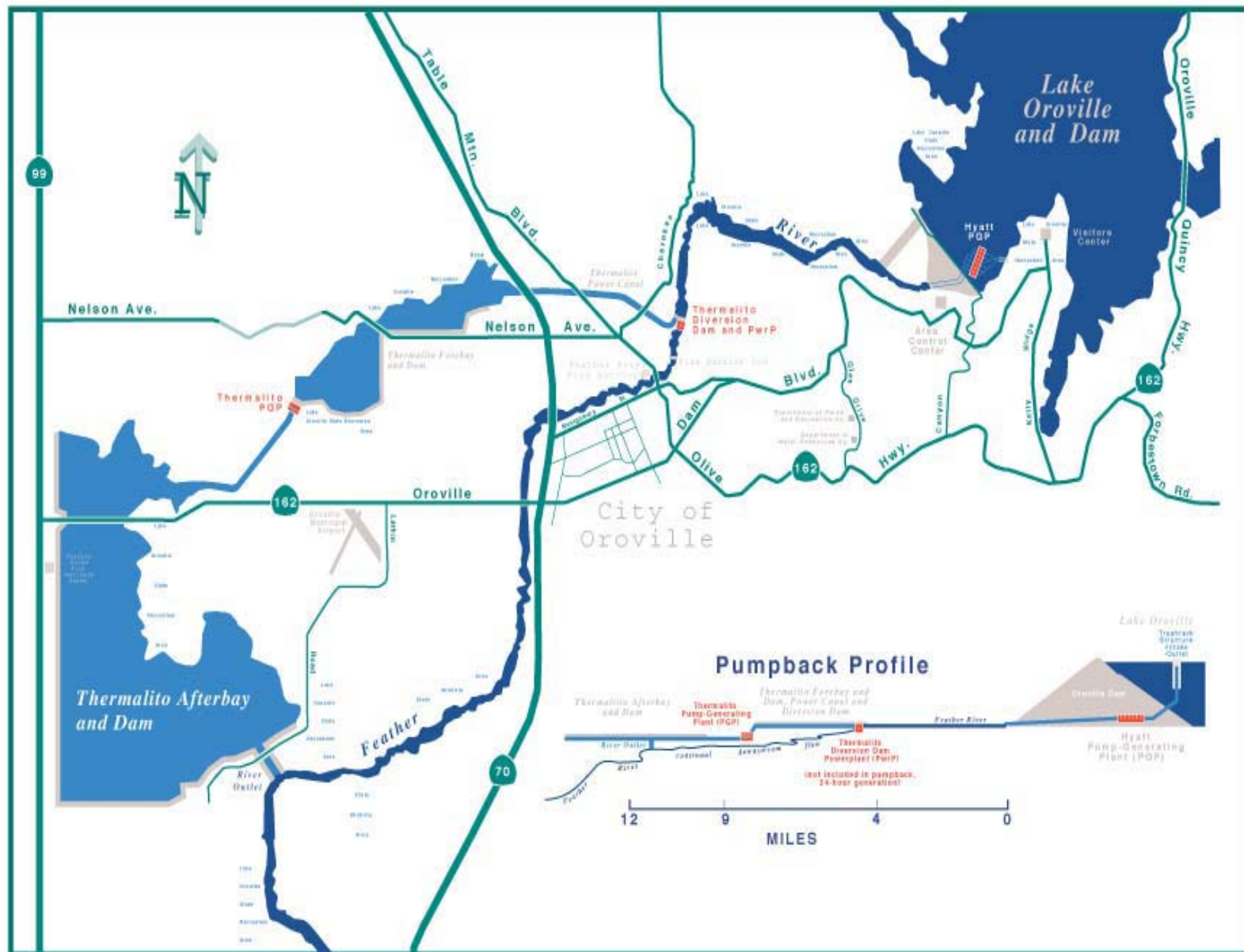


# The Oroville Facilities: A Significant Role in CA Electricity Supply

- Oroville Facilities generation - key component for state's 4<sup>th</sup> largest power producer and helps keep water prices low for consumers
- SWP is the largest single consumer of power in CA – 2/3 of SWP power needs generated at the Oroville Facilities
- Oroville Facilities – a vital resource, providing ancillary benefits







# Annual Operations Strategy

- **Objective: Maximize water supply benefits (these include all uses for water released)**
- **Subject to constraints:**
  - **Regulatory - flood control, Bay-Delta criteria**
  - **Environmental - instream flow and temp requirements**
  - **Physical/operational**
- **Power generation fits within water supply operational criteria**

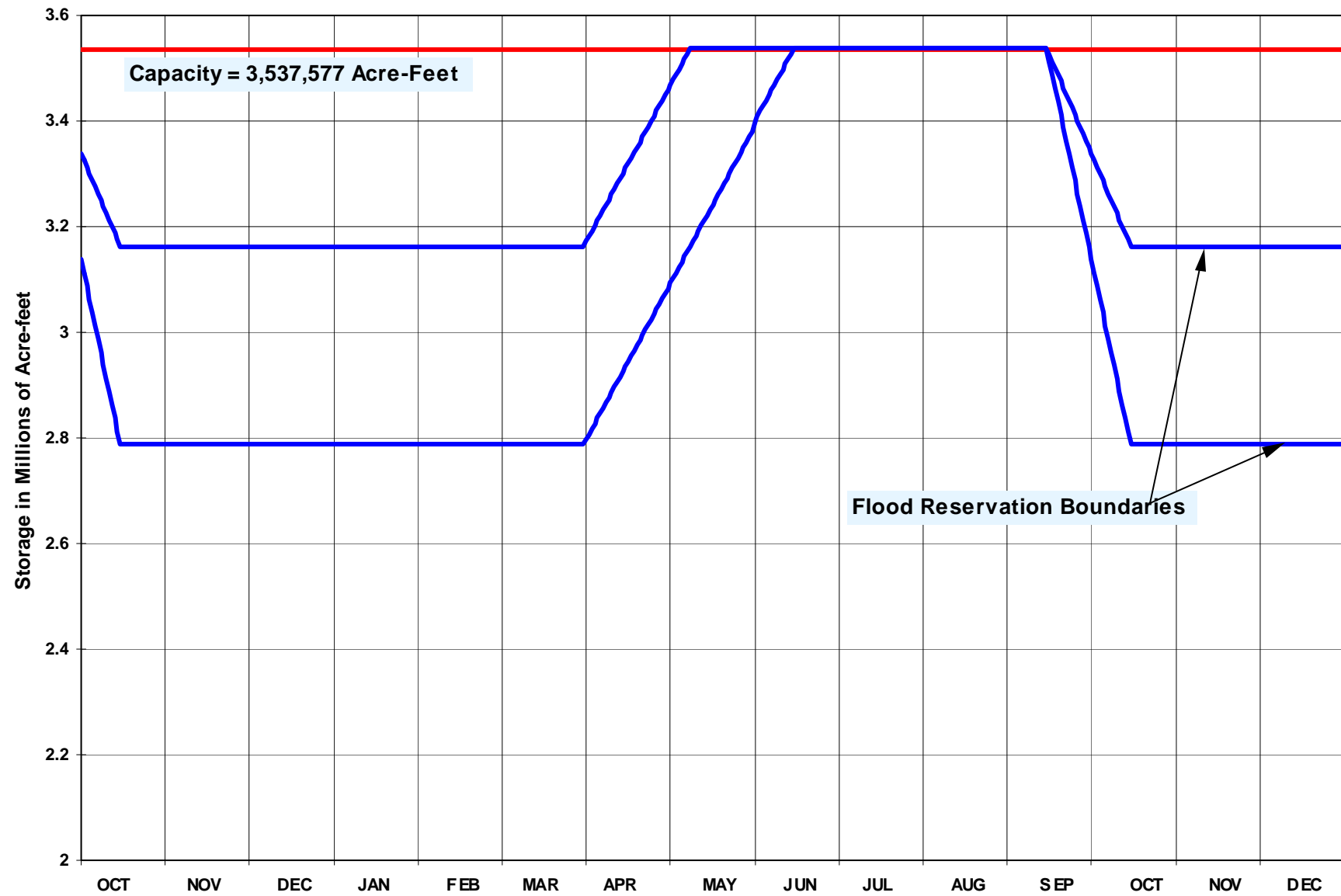


# Why is water released from Lake Oroville?

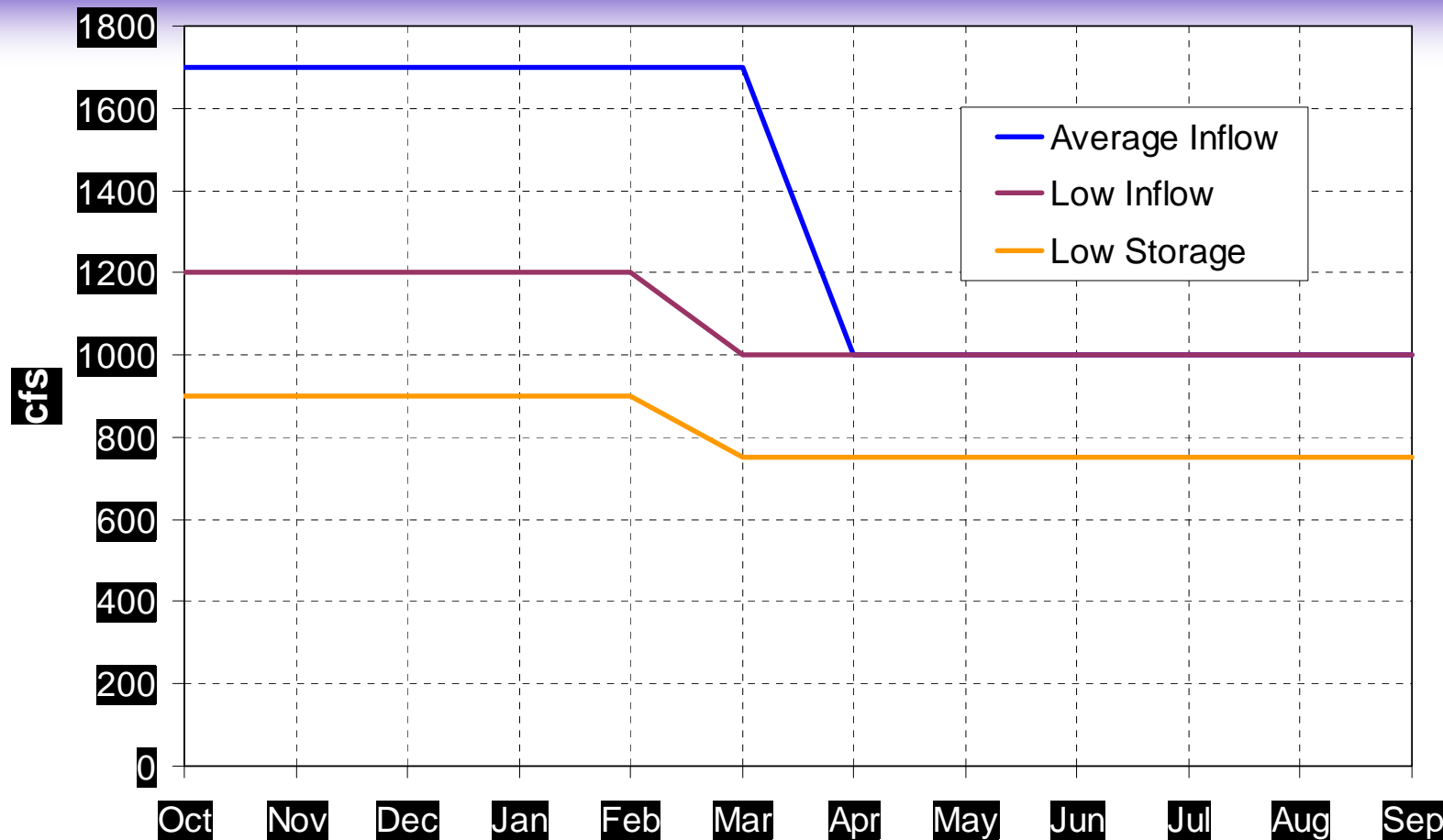
- Meet local water supply demands
- Meet instream requirements
- Meet downstream requirements
- Flood control
- Support SWP water supply targets



## Lake Oroville Flood Control Reservation



# Instream Flow Requirements (Feather River)



# Bay-Delta Standards

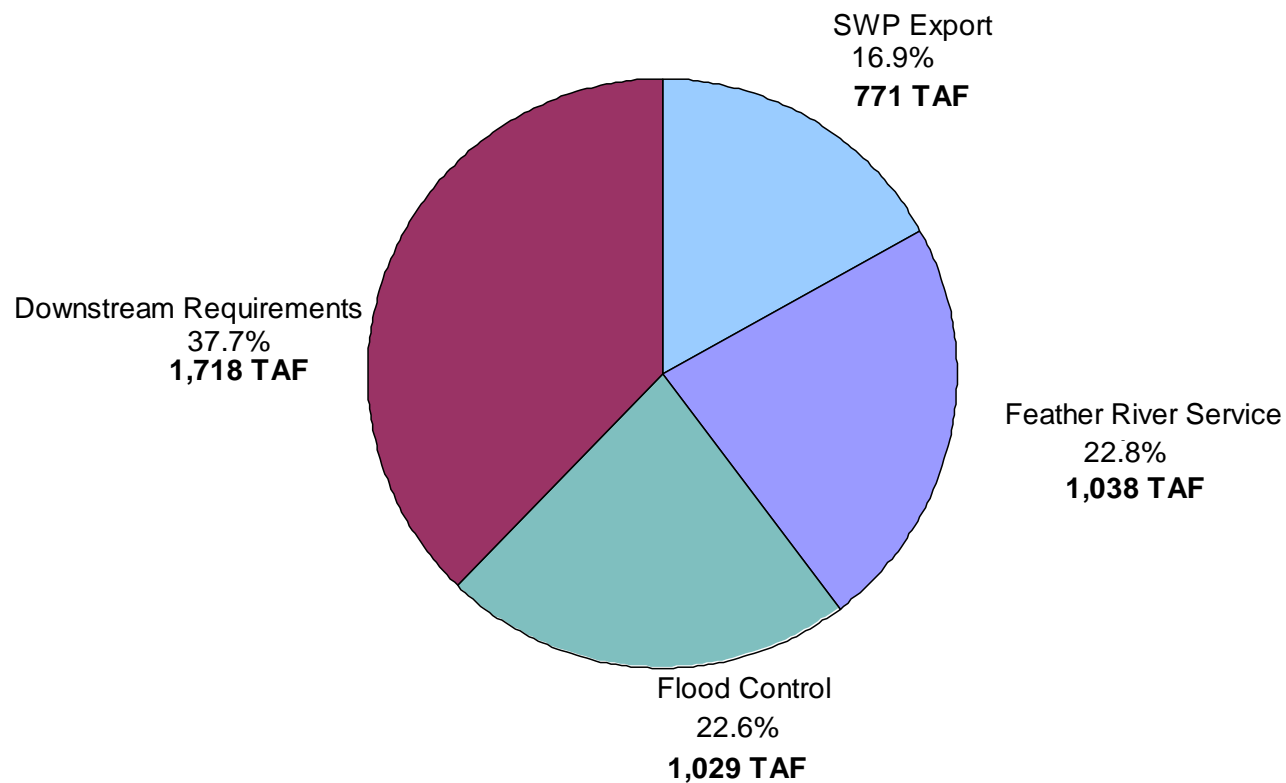
Contained in D-1641

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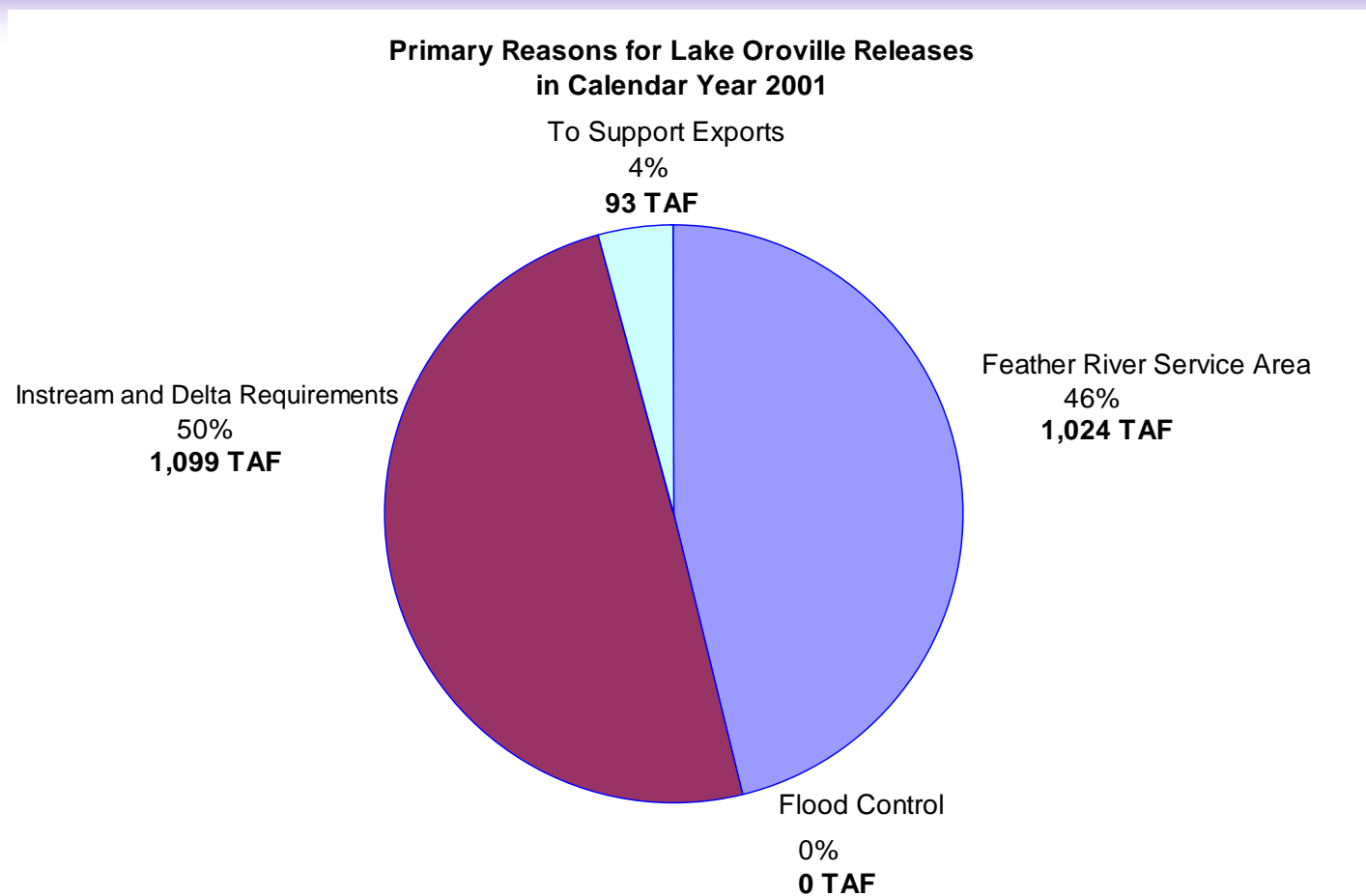
CRITERIA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FLOW/OPERATIONAL												
• Fish and Wildlife												
SWP/CVP Export Limits				1,500cfs	[1]							
Export/Inflow Ratio [2]	65%	35% of Delta Inflow [3]					65% of Delta Inflow					
Minimum Delta Outflow	[4]						3,000 - 8,000 cfs [4]					
Habitat Protection Outflow		7,100 - 29,200 cfs [5]										
Salinity Starting Condition [6]		[6]										
River Flows:												
@ Rio Vista								3,000 - 4,500 cfs [7]				
@ Vernalis - Base		710 - 3,420 cfs [8]				[8]						
- Pulse				[9]					+28TAF			
Delta Cross Channel Gates	[10]	Closed				[11]					Conditional [10]	
WATER QUALITY STANDARDS												
• Municipal and Industrial												
All Export Locations	≤ 250 mg/l Cl											
Contra Costa Canal	150 mg/l Cl for the required number of days [12]											
• Agriculture												
Western/Interior Delta				Max. 14-day average EC mmhos/cm [13]								
Southern Delta [14]	1.0 mS			30 day running avg EC 0.7 mS					1.0 mS			
• Fish and Wildlife												
San Joaquin River Salinity [15]			14-day avg: 0.44 EC									
Suisun Marsh Salinity [16]	12.5 EC	8.0 EC	11.0 EC						19.0 EC	[17]	15.5 EC	

# Why is water released from Lake Oroville

2000: Primary Uses for Oroville Releases  
Actual data



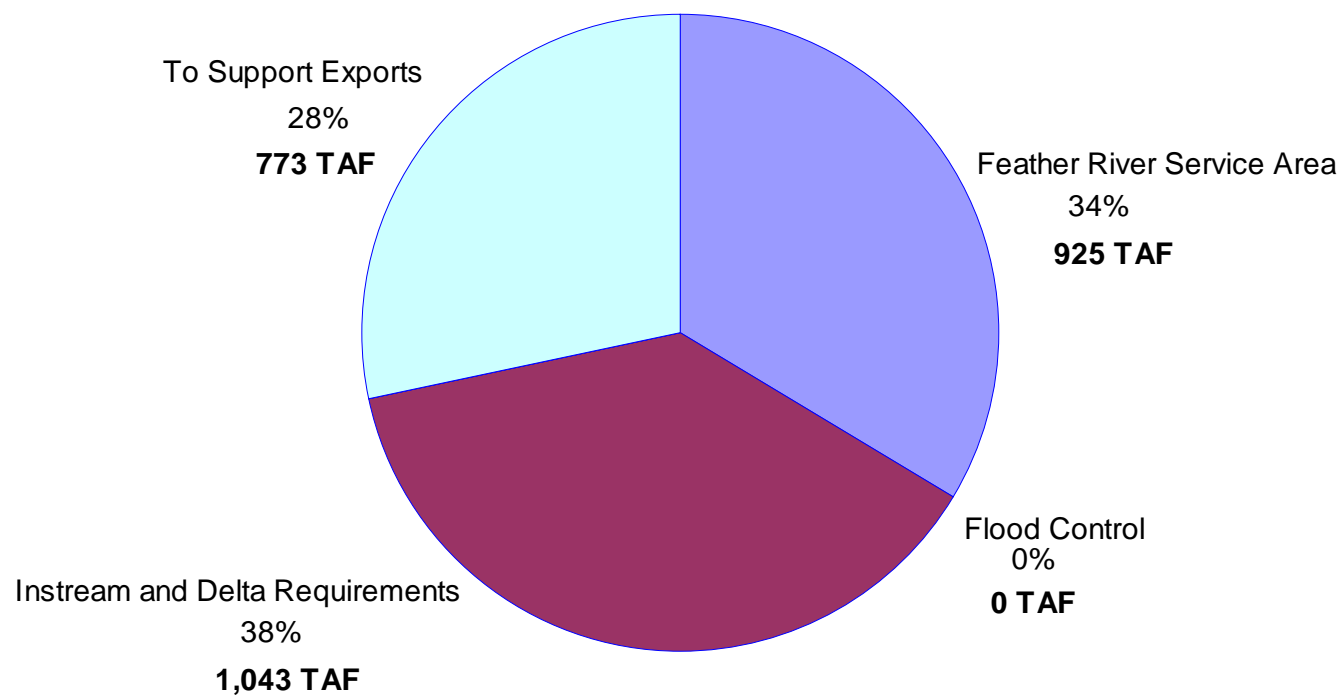
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## Primary Reasons for Lake Oroville Releases in Calendar Year 2002

(Actuals through August; September through December assumes 90% exceedence forecast)

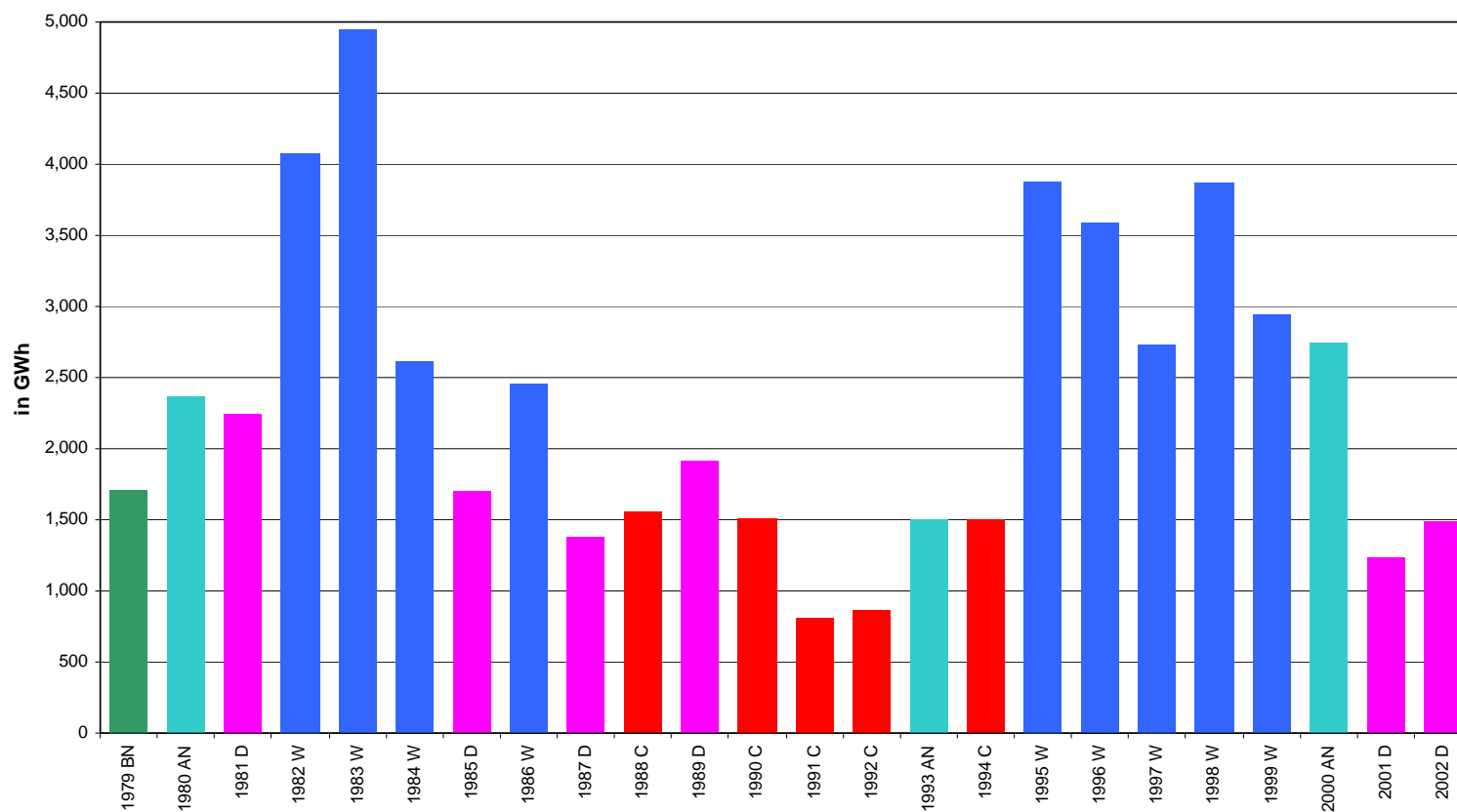


Preliminary - Subject to Change



# Total Power Generation at the Oroville Facilities 1979-2001

Hyatt-Thermalito Complex Generation  
(Chronological Order)



# Pump-Back Power Generation

1979-2001: Hyatt Annual Pumpback Operations

